
IN THE CLAIMS

Please amend the claims as follows:

1-5. (Canceled)

6. (Original) A method of manufacturing an integrated heat spreader, comprising:
generating a finite element model of a package having a substrate connected to a die
connected to the integrated heat spreader connected to a heat sink;
executing the finite element model to generate the integrated heat spreader with a
shape having deformations;
altering the shape of the integrated heat spreader to compensate for the deformations;
executing the finite element model using the integrated heat spreader having an altered
shape to compensate for the deformations; and
repeating the altering of the shape of the integrated heat spreader to compensate for the
deformations and execution of the finite element model until no further deformations exist.

7. (Original) The method recited in claim 6, wherein the generating a finite
element model of a package further comprises:
dividing the substrate, the die, the integrated heat spreader, and the heat sink into a
plurality of elements having a certain spatial coordinate and connected to other elements of
the plurality of elements.

8. (Currently Amended) The method recited in claim 7, further comprising:
associating properties with [[the]] each of the elements of the plurality of elements,
wherein the properties comprise mechanical and thermal properties, wherein thermal
properties comprise coefficients of thermal expansion.

9. (Original) The method recited in claim 8, wherein the deformations are due to the physical manipulation of the integrated heat spreader or heat absorption by the integrated heat spreader generated by the die.

10. (Currently Amended) The method recited in claim 9, further comprising:
identifying hotspots on the die;
determining [[an]] associated elements on the integrated heat spreader for the hotspots on the die; and
modifying the heat spreader geometry to decrease local thermal resistance in the associated elements on the integrated heat spreader.

11-15. (Canceled)

16. (Original) A computer program embodied on a computer readable medium and executable by a computer for manufacturing an integrated heat spreader, comprising:
generating a finite element model of a package having a substrate connected to a die connected to the integrated heat spreader connected to a heat sink;
executing the finite element model to generate the integrated heat spreader with a shape having deformations;
altering the shape of the integrated heat spreader to compensate for the deformations;
executing the finite element model using the integrated heat spreader having an altered shape to compensate for the deformations; and
repeating the altering of the shape of the integrated heat spreader to compensate for the deformations and execution of the finite element model until no further deformations exist.

17. (Original) The computer program recited in claim 16, wherein the generating a finite element model of a package further comprises:
dividing the substrate, the die, the integrated heat spreader, and the heat sink into a

plurality of elements having a certain spatial coordinate and connected to other elements of the plurality of elements.

18. (Original) The computer program recited in claim 17, further comprising:
associating properties with the each of the elements of the plurality of elements,
wherein the properties comprise coefficients of thermal expansion.

19. (Original) The computer program recited in claim 18, wherein the
deformations are due to (a) the physical manipulation of the integrated heat spreader (b) heat
absorption by the integrated heat spreader generated by the die (c) non isothermal processing
conditions for the package, coupled with differing coefficients of thermal expansion for the
package materials.

20. (Currently Amended) The computer program recited in claim 19, further
comprising:
identifying hotspots on the die;
determining [[an]] associated elements on the integrated heat spreader for the hotspots
on the die; and
modifying the local geometry of the associative elements on the integrated heat
spreader in order to reduce local thermal resistance.

21-25. (Canceled)